2009 Puget Sound Georgia Basin Ecosystem Conference
Citizen Science Session:
Advancing Conservation Trough Scientists/Volunteer Partnerships

<u>**Round Table Discussion Summaries**</u>

<u>**Discussion Questions:**</u>
1. **Is CS a worthwhile pursuit to gain knowledge and interact with scientists and natural resources managers?**

2. **Brainstorm 3-5 practical suggestions on how CS can become richer, deeper throughout the Puget Sound/Georgia Basin?**

3. **How can we establish links to the citizens and the scientists to accomplish these suggestions?**

4. **What processes need to happen to implement these suggestions? (Caution- don't focus on just money as the primary need)**

<u>**Group #1:**</u>
1. Yes, absolutely! However, some disciplines lend themselves better than others

2. a) Indicate species distribution and abundance; from land, boats, dives
   -EX: oystercatchers, REEF, long-term PT and transect counts
   b) Water quality monitoring: from samples to observations
   c) Habitat Monitoring
   -EX: eelgrass extent
   d) Timing
   -EX: Bud-burst

3. Needs to accomplish this are:
   a) Good two-way communication and sharing
   -Training scientists in volunteer interaction
   b) Program maintenance needs to match quality/quantity of data collected

4. QAQUAC, especially in politically sensitive cases

<u>**Group #2:**</u>
1. Yes

2. a) Building regional capacity for CS and <u>coordinators.</u> Longer term support and stability for CS coordinators.
   b) Increase recognition of the value of CS
   c) Utilize the diverse skills of citizen scientists in your community- ex: GIS knowledge

d) Build community stewardship networks, they could work as a SWAT team for individual projects

3. Build recognition and value of CS among practitioner community- conferences, workshops

4. Roadblocks: obtaining grant funding, rigor, liability, good experimental design

Group #3:
1. Yes
    a. Important for restoration projects- we need baseline data
    b. Yes, if data is used by all valid users (potential)

2. a) Urban center participation-need better connection
    b) Need a standardized protocol
    c) Need a simple protocol → options
    d) Resource Manager- link to citizens
    e) Celebrate volunteers' work and growth
    f) Long-term data sets gathered so trends are visible
    g) A project everyone can be engaged in, a common project
    h) Keep objectivity

3. a) Feedback for interpretation of the data
    b) Putting results in articles, newsletter, reports
    c) Increase awareness of CS to the scientific community
    d) Better inventory of available volunteers and project opportunities from scientists- build links and awareness

4. a) Create an avenue for citizens and scientists to come together
    b) Citizen Science network- how to keep this conversation going?

Group #4:
1. Unanimously yes

2. a) Linking similar CS groups together? Make information available to ecologists for use
    • Linking is good if it is content based
    b) Good centralized website to make data from groups available
    c) How to involve youth? After school, social networking, use of cell phone
    d) Have varying levels of commitment- have a variety to choose from
    e) Use new technologies like streaming from satellites
    f) Responsibility of scientists to create a CS program that can be duplicated and transferred
    g) Involve kids at an early age, descriptive and comparative may resonate more- teach them how! Don't focus on the null hypothesis

3. Design a program like the British Biodiversity Network, where citizen links/connections are designed in

Group #5 (Jim Somers Group):
1. Yes
   a. Stewardship; wide spread purpose is the only way to accomplish to accomplish a lot of things
   b. Tap into a high level of man power
   c. Local and historical knowledge available through longtime locals, tribes, and scientists
   d. Develop public transfer of science; repository for data to be shared
   e. Develop/restore communities' trust in science. If they are able to *see* the data and know that it was collected by volunteers, they might embrace the data more willingly
2. a) Develop protocols encompassing all of Salish Sea
   b) Be aware of data requirements (agency protocols)
   c) Central database for CS projects

3. a) Advocacy groups where scientists are members
   b) University contacts
   c) Education of scientists and the agencies in polite communication and human relations skills

Group #6: (Kristen Cooley's Group):
1. Yes:
   a. Can aid in policy changes and programs- social change
   b. Provides the ability to get samples that otherwise be collected, citizens are in the area 24 hours a day, they know their local landscape intimately
   No:
1) Tenure depends on papers, so scientists don't' have time; helping CS projects would be seen more as community service
2) Money is not in grant structures
   *** If scientists were asked, they most often would say it "depends"- if the project is worthwhile and if it increases science literacy than the answer would most likely be YES.

2. a) Make CS more broadly available to socio-economic groups and languages
   b) Is CS really a-political because it leads to advocacy and change??
   c) Protocol that is easy to follow, readily available, and feedback on data collected
d) Take advantage of the Baby boom retirees; they can lobby and effect their kids/younger generations
   e) Tap into non-profit originations
   f) Finding/listing gaps that scientists think that citizen scientists can fill
   g) Rigorous protocols, use of training
   h) Develop needs within the community

       * EX: Boys and Girls Club, science training for youths, give youth a sense of accomplishment

3. a) Provide funding, **money**
  b) Match:
     *Have citizens ask, "What do we need to know?"
     *Have scientists say, "I need help in….I'm looking for…."
  c) Scientists receive training in communication
  d) Actually make <u>use</u> of the data which = feedback to citizens
  e) Creation of a database/catalogue of CS programs
  f) List of the best practices available- what works well?

4. a) Ask scientists to participate in community outreach
  b) More COSEE events: bringing citizens and scientists together
  c) Relationship building with lead scientists
  d) Connecting through marine resource committees: who would lead this??
  e) Promote CS through a specific organization or a recruiter

Group #7: (Mary Lou's group)

1) Yes!!! Absolutely valuable. (Unanimous)
2) How to engage citizens/enrich experience; define a handful of issues/resources to be pursued.
 a) Develop the following for any CS projects undertaken. This may mean defining these issues for new projects or facilitating/encouraging them for existing ones.
  (1) Protocols
  (2) Data management
  (3) Training
  (4) Communicate back to citizens and back to each other
  (5) Information personally and professionally relevant
  (6) Professional mentors
3) A central database or data portal so that CS projects can see each other's data and scientists can see what is produced. Something like this was tried by Ecology so developers should review the problems with previous efforts before embarking on this.
 a) Verification and authentication is important for data and should be noted
 b) Public storage of protocols/verifications as well as data is important
  i) Define the different levels of science that may be done
  ii) Sort out data for the different levels of science
  iii) The data from some projects is far better than that from others and those reading of using the data may want to know that
4) Find out when things fall apart for project data sharing
   *EX: putting data into useful form
5) 3-5 Suggestions for concrete projects to pursue:
 a) Beach Watchers: Take this project Sound wide
 b) NOSC- Salmon counting, make sure that this is done in all counties and that data is shared

c) Mussel watch-toxicity – some of this may be done by CS now and there may be more opportunity for additional CS collection of samples, etc.